Hachenberg (G.P.)

ON THE DOUCHE.

A NEW AND IMPROVED MODE OF ITS APPLICATION

FOR THE

INDUCTION OF PREMATURE LABOR,

AND THE

TREATMENT OF DISEASES.

By G. P. HACHENBERG, M. D., Springfield, O.

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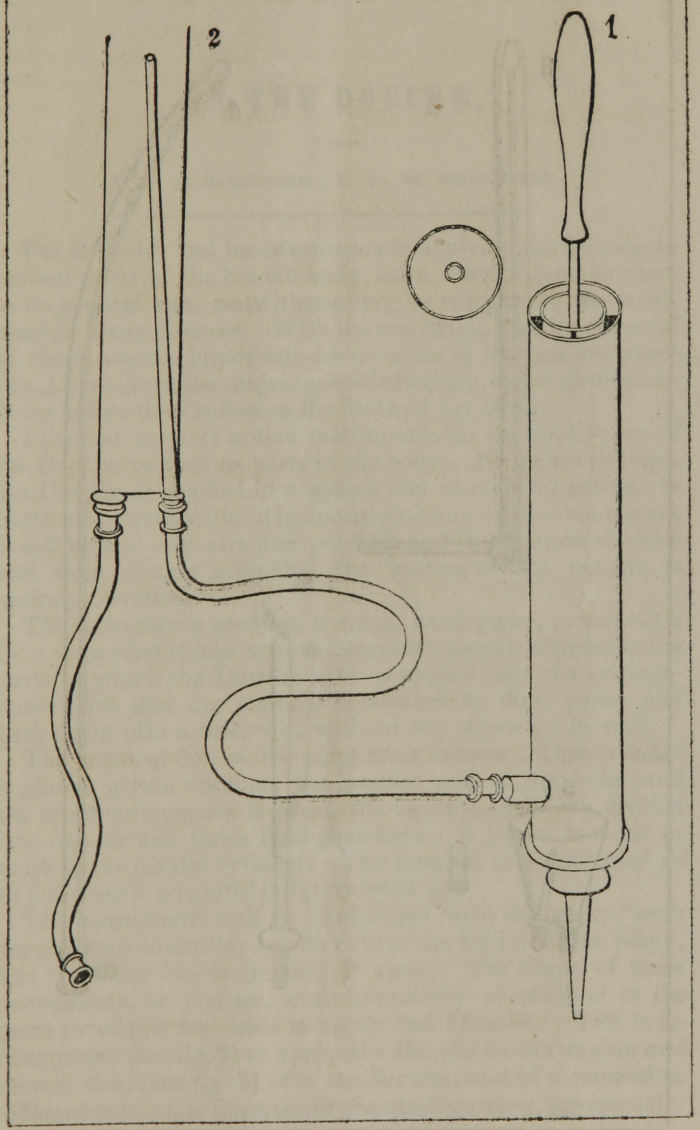
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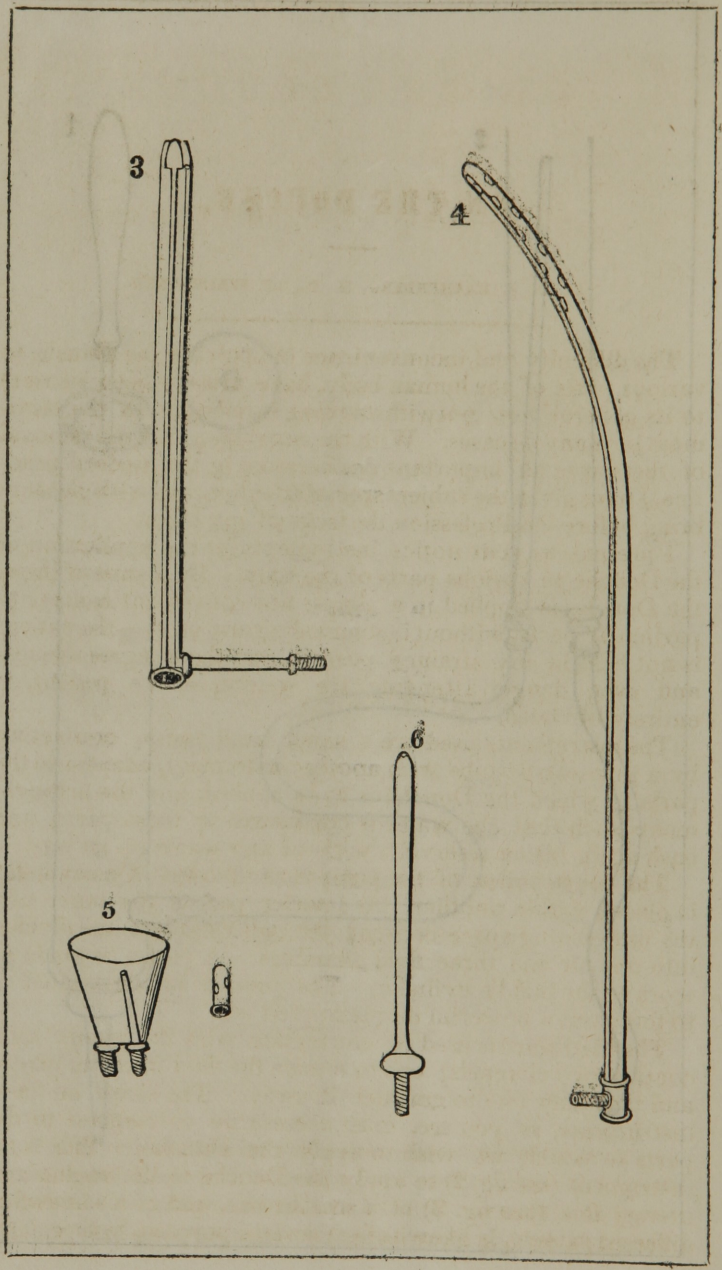
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ON THE DOUCHE.

BY G. P. HACHENBERG, M. D., OF SPRINGFIELD.

The difficulty and inconvenience in applying the Douche to various parts of the human body, have always been barriers to its general use, notwithstanding its efficacy in the treatment of many diseases. With the conviction that the removal of these was an important desideratum in the medical practice, I have given the subject special attention, and with pleasure bring before the Profession the fruits of my labor.

I present to your notice instruments for the application of the Douche to various parts of the body. By means of these, the Douche is applied in a simple and convenient manner to particular parts, without incommoding any other—the patient is not held in any strained posture, and the disagreeableness and even danger attending the wetting of the patient, is entirely obviated.

The instruments used are a small hand pump, connecting by a gum-elastic tube with another instrument, adapted to the parts to which the Douche is to be applied; and the arrangements such that the water is conducted to those parts, and back again into a reservoir, without any waste on its way.

The construction of the pump is as follows: One cylinder is placed within another, the interior part of the inner and the intervening space between the two cylinders are divided into one air and three fluid chambers. A piston is made to work in the middle cylinder. The pump is so constructed as to force out a powerful uninterrupted jet.

The instruments used in connection with the pump, each contain two channels; one to receive the fluid from the pump, and the other one to conduct it away. The shape of these instruments, as you see, must necessarily correspond to the parts to which we wish to apply the Douche. This is an instrument (see fig. 2) to apply the Douche to the vagina and uterus; this, (see fig. 3) of a smaller size, and of a somewhat different pattern, is likewise for the same purpose, but specially

designed for the rectum; this catheter shaped instrument (see fig. 4) is for the male urethra and bladder, and may even be used when we wish to apply the Douche within the cavity of the uteras; this little cup shaped instrument (see fig. 5) is for the eye, nape of the neck, temples, epigastrium, perineum, and other external parts of the body. The construction of these instruments are all precisely upon the same principle—they admit the fluid through a small tube terminating at or near the distal end of the instrument, forming its common opening. The force of the water passes through this small tube, strikes the body, and then falls back into a free space of the instrument, and is conducted thence by a gum-elastic tube.

I would also propose an apparatus for the use of cold and warm applications, which I think may be turned to an important advantage in the treatment of certain stages of fever, cephalic diseases, croup, collapse, sprains, luxations, fractures, &c. It is simply a long thin gum-elastic tube of small diameter, coiled about or around the affected parts, through which by means of the Douche-pump is forced either the cold or warm water. For hospital practice, I would suggest the suspension of the use of the Douche-pump, substituting in its place, a keg, filled either with cold or warm water, placed above the level of the bed. One end of the tube communicates with this keg,—the middle portion is coiled about the affected parts, and the other end with an opening regulated by a stop-cock empties the water into another keg or reservoir. To make cold and warm applications to the head or abdomen, the tube may be coiled into a spiral form, webbed together with strings. When the application is made to the limbs, neck, or to the entire chest, it is simply wound or coiled around the parts. This method of applying cold and warm applications, has in particular the following advantages:

1. The application is dry, soft and soothing.

2. The inconvenience and danger often resulting from the depressing effects of protracted wetness to the patient, is by this application wholly obviated.

3. The possibility of making such applications under splints and dressings.

4. The application is made in a most thorough manner. By means of the coil, not one part merely, but the whole surface of the parts affected, are brought in contact with it.

5. It is always uniform in temperature, and not subject to

the abuses and carelessness of nurses, as in the old method of making cold and warm applications.

6. Its convenience, without disturbing the parts.

The application of the Douche may be: 1. Interrupted.—2. Uninterrupted.—3. Cold.—4. Warm.—5. Medicinal.

To understand fully the therapeutic effects of the Douche, we must know the state of nervous action through which we wish to make our impressions.

Where there is a strong state of irritability, with a full pulse and a warm dry skin, the cephalic spinal or the epigastric *uninterrupted* Douche will almost invariably modify these symptoms of disease. On the other hand, where the forces of life are low, and the Douche is resorted to, it should be the *interrupted*. Analogously, we would suppose that the warm Douche would be indicated in asthenic cases. Such, however, is not the case. In asphyxia, syncope, and other affections, where there is a low degree of vitality, life would be greatly endangered by it. Yet, in asthenic cases, where there is not a sinking state of the great sympathetic, the warm Douche may be resorted to, where we wish to act more locally than constitutionally. As a fomitant and resolvant, the warm Douche may happily serve many important purposes; but independent of these qualities, not much good can be expected from it. Where the use of the Douche is advisable, the cold Douche is required in most of cases, and it is this that is generally understood by the simple term, Douche.

I. The interrupted Douche is one, subject to quick or slow interruptions, as illustrated by dropping, sprinkling and dashing, and is generally practiced in the treatment of syncope, asphyxia, and some forms of convulsions. It has proved a successful remedy in some of these complaints—frequently one dash of the cold water has sufficed to restore consciousness. The late lamented Dr. Drake used it effectively in treating asphyxiated infants. Dr. Marshall Hall, with the physiologists of the present day, supposes that the shock of the impression of the cold, excites the fifth and spinal nerves, and thus produce the first act of inspiration. Certainly a philosophical conclusion, from the experiments with the Douche.

Dr. Simpson forced an obstinate patient to deglutition, by dashing cold water in his face. Dr. Darwall has used this Douche with success in several cases of acute hydrocephalus. The cephalic Douche, *guttatim*, for infants and children, is

one of no small degree of power in the treatment of diseases of the brain.

II. The uninterrupted Douche I deem one of the greatest importance, and will treat of it principally in my paper.

1. Our experience with this Douche has been mainly upon the head. Its effects are both local and constitutional. Locally, it abstracts a large quantity of caloric, and constitutionally, it leaves the impression of a sedative effect, particularly upon the cerebral organs, and upon the action of the heart and arteries. Esquirol says: "It exercises a sympathetic influence upon the region of the epigastrium. It causes cardialgia, and desires to vomit. After its action ceases, the patients are pale, and sometimes sallow. * * * They experience, after having received it, a sensation of coolness about the head, which is very agreeable to them, and often very useful."—The influence of the Douche upon the epigastrium, is but a secondary effect of the cephalic application. From the peculiar sympathy existing between the brain and stomach, depressing the one depresses also the physiological energies of the other. On the grounds of the mutual dependence of these organs, I would with a good deal of confidence suggest the application of the Douche to the epigastrium, in the treatment of certain diseases of the brain, where for some reason the application to the head should be either inconvenient or impracticable.

As reported in the British and Foreign Medical Review, Dr. Munchmeyer successfully treated acute hydrocephalus with the Douche to the head. He considers it not a directly antiphlogistic remedy, and not indicated in early inflammatory stage of hydrocephalus; but rather when effusion, the consequence of inflammatory action, has taken place, and a tendency to paralysis exists. In fact, where the Douche is administered in short durations, the circulation receives more an impulse than a depression, as we see it illustrated in its application in syncope, and asphyxia; therefore, it is not a fit antiphlogistic agent; but where the Douche is applied sufficiently to depress the circulation so as not to result in strong reactions, its antiplogistic properties cannot be doubted.—Indeed, the Douche, like opium, has two therapeutic properties—it may serve as an excitant, and likewise as a sedative. Like blood-letting, it has its reacting influence, and who doubts the antiphlogistic properties of venesection?

"Dr. Munchmeyer directs that the patient should be taken

out of bed, stripped of his clothes, and wrapped up in some simple covering, which leaves only his head exposed. He should then be placed in a sitting posture in a bath or tub, and the person who administers the affusion should mount on a chair and pour cold water upon his head, in a moderate stream, from the height of five or six feet. This may be continued for a minute or two, and repeated twice or thrice. The patient should then be wrapped up in a warm sheet and placed in bed, where he should remain till it is thought proper again to have recourse to the remedy. At first, it will probably be requisite to repeat the affusion, in the course of an hour and a half or two hours; but as the patient improves, the interval may be longer, so that at last it will not be necessary to employ it above two or three times daily.

The immediate effect of cold affusion is, that the patients awake from their comatose condition and begin to cry violently, which they continue to do so long as the water is poured upon them. They afterwards appear exhausted and pale, the skin is cool, the pulse small and very frequent. When placed in bed they usually fall into a doze, the pulse becomes more regular, and the warmth of the skin returns. By degrees, as with the repetition of the remedy the patients improve, they begin to have sound sleep, from which they awake in the possession of all their senses, recognise by whom they are surrounded, and cease to squint. At the same time, too, a sweat, frequently of a critical nature, breaks out upon the whole body, and during its continuance the employment of cold affusion is very hazardous. The patient's sleep becomes more refreshing, and the comatose condition recurs at larger intervals; he begins to notice what goes on around him, the head regains its natural temperature, and the febrile symptoms disappear. The employment of affusion must, however, still be continued for some days, since relapses very frequently occur." Watson also thinks favorably of the Douche in acute hydrocephalus.

The Douche to the head is not only indicated in inflammatory affections of the brain, but particularly in those diseases of the brain where its nervous functions are impaired, or in a measure suspended. In some of the London Hospitals, drunkenness has for many years been treated by the Douche. Drs. Banks, Thomas Taylor, and Harthill, of England, successfully treated poisoning by hydrocianic acid with the Douche. Dr. Chuckerbutty treated a case of epilepsy with

cold applications. Drs. Southwood Smith, Graves, the Charite Krankenhous, of Berlin, applied the Douche in removing symptoms of cerebral excitement in fever. Esquirol treated insanity with the cold Douche, and states that dementia has been treated by the hot Douche.

Hot applications to the head have likewise been resorted to. Dr. Graves mentions a case of Mr. Swift, who, when laboring under severe headache, obtained immediate relief by the application of hot water. In an epidemic of influenza, occurring in Dublin in 1832, the most prominent symptoms were great debility with an intense headache. The headache was almost instantly relieved by hot water applications. Dr. Oppenheim, of Hamburg, likewise treated cephalagia with the same remedy. Graves says: "You will generally find warm vinegar and water the best and most efficacious application in the ordinary headache of fever."

2. The Douche to the face is not a very practicable remedy, except by way of sprinkling and dashing cold water in the face. In asphyxia, it may be resorted to where a powerful impression is to be made upon the branches of the fifth pair of nerves. Esquirol applied the Douche to the face in stupor.

To particular parts of the face it has frequently been applied. For the purpose of applying it to the eye, the German oculists have for many years used a long tube, with a happy effect. In the Medical Times for 1851, we have an account of an eye fountain, invented by Mr. Pine, which is highly recommended. "It is in shape like a small vase, attached to which is a small air pump, the use of which is to propel through a very fine jet, a continuous stream of water or lotion against the eyes." M. Chassaignac, of Paris, treated infantile purulent opthalmia by the cold water Douche. The manner in which he applied it is not stated. Prof. Muller, by directing the Douche into the nostrils, brought about contraction of the iris.

Certain forms of tic douloureux, neuralgia and odontalgia may be relieved by the Douche to the region of the affected parts. The benefit obtained will be either through revulsion, or the induction of a new nervous action, upon the principle upon which Prof. Parker treated spermatorrhoæ, by the bougie, for allaying the morbid irritability of the caput gallinagenus. The medicinal Douche, in applying lotions to the eye, and irritants and sedatives to other parts of the body, will I think

be favorably received when a convenient method is obtained of its application.

3. The Douche, in diseases of the throat, chest and abdomen, has not been often resorted to. Baumback, of England, and Harder, of St. Petersburg, applied the Douche to the spine in croup. Dr. Sloan, of Ayr, to the throat in bronchocele. Dr. Gordon treated cynanche maligna, and Graves, influenza, croup and bronchitis, with hot applications. In the treatment of inflammatory diseases of the throat, I would not hesitate to apply the cold Douche (by means of instruments) over the affected parts; at the latter period of the disease, when the inflammation has mainly run its course, resolution may be favored by warm applications about the neck.

Warm applications to the chest in thoracic diseases are considered preferable to those of cold. Watson, in diseases of the chest, regards cold applications dangerous. Williams, the great pathologist, thinks they are apt to induce pneumonia. Dunglison considers warm applications to the chest, in asphyxia and asthma, dangerous. In pleurodynia and uncomplicated pleurisy, we may consider the Douche a safe and efficient remedy. On account of the nearness of the surface of many parts of the serous membranes, I have sanguine expectations of the efficacy of the cold Douche and cold applications in the treatment of meningitis, pleurisy and peritonitis. In inflammation of the parenchyma of organs, cold is not applicable, as when their investing membranes are affected, or when they are nervously disordered.

Cold has been applied to the abdomen with greater freedom than to the chest. In the Hospital "La Charite," at Berlin, cholera was treated by cold affusion to the abdomen. Gerhard treated with success a violent character of gastritis with ice applications. M. Moreau Boutard reduced strangulated hernia by the Douche; and M. Butignot applied it to the hypogastrium in an obstinate case of hysteria. In deeply seated inflammatory diseases of the abdomen, as of the chest, the external application of cold could not be advised.

4. The Douche to the genitalia has been frequently resorted to. Dr. Currie, in his "Medical Reports," mentions a patient of Dr. Ford, where an obstinate stricture of the bladder was instantaneously removed by the Douche. Dr. Wm. Budd, according to Dr. Barlow, treated this complaint by the injection of cold water into the bladder. Esquirol applied the Douche in masturbation. Barlow applied the same to the

scrotum, to contract the cremaster. Dr. Sloan treated goitre and fibrous tumors by the Douche, and his cases illustrating the power of this agent in promoting absorption and arresting diseased action, are extremely interestiug—a statement of which is copied from the Edinburg Medical Journal into the 12th vol. of the Western Lancet. Profiting by the experience of Barlow and Sloan, I applied the Douche in a case of hydrocele with success. The compression, and the characteristic reacting effects, resulting from the Douche, evidently aroused the absorbing powers of the tunica vaginalis so as to result in a cure. In the "Counsellor" on this subject I have mentioned several cases of diseases of the urinary organs, occurring in my own practice, which were successfully treated by the Douche.

I have designed the catheter shaped instrument for the application of the Douche into the urethra, and the admission of fluid into the bladder. In spermatorrhœa, it is applied directly to the caput gallinaginis, and in retention of urine to the spinchter. Experiments with the Douche to promote absorption of the prostate gland, merit our attention. It is probable that even the kidneys may be sympathetically influenced by the use of this instrument.

5. The Douche has been applied to the rectum, by Drs. Barlow, Esquirol, and others, in the treatment of obstinate constipation. Dr. John Wilson, physician of the Middlesex Hospital, treated colica pictonum with copious warm injections. Dr. A. S. Lawrance reduced strangulated hernia by similar means. Dr. E. Hare, as recorded in the Edinburg Medical and Surgical Journal, treated dysentery in the same manner. Arnott has used the enema of iced water, and considers it a remedy in the hemorrhagic stage of cholera. Knowing the corrugating effect it has upon the animal tissue, and the impediment it causes to exosmosis, we have no reason to doubt the efficacy of this remedy in the treatment of colliquative discharges of the intestines.

6. One of the most important applications of the Douche is to the spine. Prof. Todd applied ice to the spine in infantile convulsions. Dr. I. E. McGurr successfully treated traumatic tetanus in the same manner. I have before given notice of my own success with the Douche to the spine, in the treatment of infantile convulsions. Dr. Marshall Hall considers the immediate pathological cause of all convulsive diseases confined to the spine. The proximity in which the Douche can

be brought to the seat of morbid action, will make it one of the most potent remedies in the treatment of these diseases.

7. In a long and valuable article on Sprains of the Ankle, by M. Baudens, of the Hospital de Val de Grace, read before the Academy of Sciences, the practice of leeching and poulticing is held up to reprobation, and purging and bleeding as very rarely necessary—the great indications in the treatment being absolute rest and cold water applications. A statistic of 500 cases under this treatment (occurring in this Hospital) was given, and in no instance, he says, did the injury degenerate into caries, white swelling, or even permanent ankylosis. In the treatment of local inflammations, phlegmasia dolens, varicose veins, inflammation from luxation and fracture, cooling resolvents, *cæteris paribus*, are always beneficial.

8. The Uterine Douche is a subject of the highest importance, and has recently attracted much attention in the medical profession. Germany has the honor of bringing it before the profession as the most powerful, efficient, as well as safest agent for the induction of uterine labor. To Prof. Kiwisch, of Wurzburg, we owe the principle of its operation. His method in applying the Douche consists in directing a continuous stream of warm water from a height, by means of a syphon, upon the os uteri. Dr. T. Smith, physician-accoucher to St. Mary's Hospital, has fairly tested the efficacy of the syphon-douche. From his own experience in cases of hemorrhage, of the increased efficacy of hot and cold temperatures in causing uterine contraction, he inferred there would be a corresponding effect in alternating the hot and cold Douche. This alternating process he practiced with success, and the following is his description of the apparatus and the manner in which it was used: "A piece of India-rubber tubing above eleven feet long, and half an inch in diameter, was connected with a straight tube from an injecting apparatus, five or six inches in length, the latter forming the uterine extremity of the syphon. A vessel containing two gallons of water, of about 110° Fahrenheit, was placed nine or ten feet from the ground, the patient being placed in an empty hip bath. The proper end of the tube was now passed into the vagina, and directed towards the os uteri, where it was held steadily.—After exhausting the tube, the other extremity was placed in the warm water. The stream immediately began to flow with considerable force against the os uteri, and continued until the whole contents of the vessel had been discharged. Two

gallons of cold water were then poured into the vessel, and discharged in the same manner. The time occupied by the whole Douche was from twenty minutes to half an hour."

The next change in the application of this remedy was made by Dr. J. Prior Lacy, surgeon to the Newark Hospital. He used no syphon, but in its stead the distal end of the India-rubber tube was fastened to a receptacle for water, placed ten feet above the patient, and the end of the tube was introduced into the vagina, without any enema pipe being affixed to it.

More recently the Uterine Douche has been frequently resorted to; but I am not aware that any further improvements have been made in it. Kiwisch, Smith, and Lacy's plan is evidently defective, and for a want of sufficient power is likely to fail in some peculiar cases in exciting the uterus into action. The apparatus being unwieldy, would make it objectionable in private practice. To obviate these difficulties, and thus make the Uterine Douche more practicable, I have ventured upon an improvement in the instrument here presented for your inspection.

Dr. Tyler Smith, in his paper, on the induction of premature labor by Prof. Kiwisch's method, alludes to the means ordinarily adopted, and shows the frequent failure of some of them. "The use of the ergot is, he observes, very uncertain. Sponge tents are difficult of introduction. Puncturing the membranes, though certain to induce abortion when fairly accomplished, cannot in all cases be put in practice, as for instance, in certain cases of deformity of the pelvis."

"In order to form something like a correct estimate of the Douche, as compared with the other methods of inducing premature labor, we must consider the various cases and conditions in which the operation may be necessary. Premature labor has been induced, or the operation recommended, by obstetricians of repute, in the following complication of pregnancy:

1. Deformities of the pelvis.
2. Cancer of the os uteri, vagina, or external parts of generation.
3. Ovarian tumors, and fibrous tumors of the uterus.
4. After rupture of the uterus in previous labors.
5. Dropsy of the amnion, ascites or anascarca.
6. Hemorrhages from the uterus, or other organs.
7. Excessive vomiting.

8. Strangulated hernia, occurring during pregnancy.
9. Convulsion, insanity, and corea.
10. When still-born children have been produced at the full time, several times in succession.

Such is the interest of this paper, that I will extend still further my quotations: "From the account of the numerical results of the induction of premature labor by the ordinary method, it appears that nearly one-half of the children are born dead. This is partly owing to the necessity for its performance in some cases before the fœtus has become viable; and in part to the occurrence of difficult labors from deformity and from evacuation of the liquor amnii at the commencement of labor. This latter cause of increased mortality among children born through the induction of premature labor, promises to be entirely obviated by the substitution of the Douche for the operation of puncturing the membranes. There are, indeed, sound reasons for preferring the Douche in all cases in whicb the fœtus is living and viable, and in which the immediate relief to be obtained by discharging the liquor amnii is not imperatively demanded. As regards the mother, it relieves her from all risk of mechanical injury to the uterus. It is well known that the proportion of mal-presentation is increased in cases in which labor comes on at the full term. In cases requiring turning after the induction of premature labor, the danger to mother and fœtus is increased by the absence of the liquor amnii. But these and other difficulties, which follow upon the evacuation of the liquor amnii before the commencement of labor, when the fœtus has arrived at the latter months, are greatly diminished by the employment of the Douche. This happy improvement promises to be of equal value to mother and child. Above all, it is applicable in cases where the os uteri cannot be reached, where the induction of premature labor by any other known means is impossible, and where the only alternative is the danger of the Cæsarian section."

Dr. B. Fordyce Barker, on this subject, writes: "I would say that, as a rule of practice, the Douche should be preferred in those cases: 1st, Where the operation is necessary in the early months on account of excessive vomiting, occurring to such an extent as to threaten life by starvation and debility; 2d, In those cases where the operation is necessary in the latter months, in order to save the child, on account of some mechanical obstacle to delivery at the full term. * * * *

The only objection which has been urged against the Douche as a means of inducing premature labor, is the facility, certainty and safety with which it could be made use of for criminal purposes, were it generally known to the public."

Drs. Simpson, Tyler Smith, Proctor, and Hecking, used cold douching into the uterus to arrest uterine hemorrhage. Prof. Paine, for the same disease, introduced ice into the uterus.

Prof. Murphy, of the University College, I understand makes the Douche an unconditional remedy in puerpural convulsions.

As an emmemagogue, the warm Uterine Douche is ordinarily most efficient. The warm application induces a uterine hyperæmia, and under favorable circumstances the menstrual functions are restored. There are cases, however, of amenorrhœa in which the cold Douche must be substituted for the warm, particularly such as are apt to terminate into menorrhagia.

With this brief enumeration of some of the diseases treated by the Douche, with the respective authorities, and with the expression of the views and experience of others rather than my own, I leave the subject before you; and with proud confidence in your love of scientific improvement, and repugnance to empiricism, I would call your further attention thereto.